

**IN THE SPECIFICATION**

Please replace the paragraph beginning at page 10, line 10, with the following amended paragraph:

**Fig. 1** is a schematic diagram showing the preferred layout of universal ~~electrical~~ fleet electrical system components in a police vehicle A. The universal ~~electrical~~ fleet electrical system **10** includes a standardized power distribution panel **12**, which encompasses a fuse panel **14** and a lighting selector junction box **16**. The power distribution panel **12** is preferably disposed in the trunk of the vehicle A. The fleet electrical system **10** also includes a console panel **18** disposed in or under the dash of the vehicle A, the console panel **18** having a plurality of user operated switches for controlling various electrical circuits in the system **10**. Finally, the universal ~~electrical~~ fleet electrical system **10** includes a universal wiring harness **20** having a plurality of connectors numbered **C1-C45** disposed at predetermined locations in the vehicle for connecting aftermarket accessories to the electrical system **10**. The wiring is color coded and stamped with indicia for circuit identification in order to facilitate maintenance and service of the universal fleet electrical system.

Please replace the paragraph beginning at page 11, line 3, with the following amended paragraph:

The wiring harness **20** may include standard and/or optional connectors designated **[[C1-C45]]** **C1-C42**. For example, standard connectors may include connectors **C1-C16**, and optional connectors may include connectors **[[C17-C45]]** **C17-C42**. The position and function of the illustrated connectors are as indicated in the following table.

Wiring Harness Connectors		
C1	Trunk	Main distribution
C2	Trunk	Main distribution
C3	Trunk	Main distribution
C4	Trunk	Main distribution
C5	Trunk	Main distribution
C6	Trunk	Main distribution
C7	Trunk	Main distribution
C8	Trunk	Main distribution
C9	Trunk	Main distribution
C10	Dash	Console panel
C11	Dash	Console panel
C12	Deck	Horn ring bypass
C13	Dash	Console panel
C14	Dash	Console panel
C15	Dash	Console panel
C16	Front	Headlights
C17	Front	Siren speaker
C18	Front	Grill lights
C19	Front	Grill lights
C20	Trunk	Flasher for hi-beams
C21	Trunk	Flasher for grill lights
C22	Trunk	Brake & back-up flasher
(cont.)	(cont.)	(cont.)
C23	Trunk	Brake and back-up light

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C24	Trunk	Spare circuits
C25	Trunk	Siren option
C26	Trunk	Scale charger
C27	Trunk	Camera control
C28	Deck	Deck light
C29	Deck	Arrow stick
C30	Dash	Dash light
C31	Interior	Gun lock
C32	Interior	Gun lock
C33	Dash	DRL relay
C34	Front	Spare circuits
C35	Dash	Siren speaker
C36	Front	Visor light
C37	Dash	Dash light
C38	Trunk	Main distribution
C39	Side	Right mirror light
C40	Side	Right side light
C41	Side	Left mirror light
C42	Side	Left side light
C43	Deck	Switch control
C44	Deck	Siren control
C45	Deck	Directional control

Please replace the paragraph beginning at page 13, line 17, with the following amended paragraph:

**Figs. 2A and 2B** illustrate a schematic wiring diagram showing how the various components of the universal fleet electrical system **10** (fuse panel **14**, lighting selection junction box **16**, and console panel **18**) are connected by universal wiring harness **20** to the various accessories in the police vehicle **A**. Power is distributed from the main electrical panel **14** to accessories interconnected with the electrical wiring system **10** via connectors **C1, C2, C3, C5, and C7**. **Figs. 2A and 2B** include additional connections to the police vehicle **A** primary electrical system. Referring to connector **C12**, the wiring harness **20** is connected to the vehicle's brake switch, ACC or ignition switch, anti-theft switch (gun lock switch), park switch, and dash lights by tapping into the vehicle's existing wiring system using a ~~convention~~ conventional crimp type connector to tap into the wiring. For example, the tap into the ignition or ACC switch is connected via connectors **C12, C1** and intermediate harness wiring to the ignition relay solenoid coil, so that when the ignition switch is turned to the "ON" position, the solenoid is energized, closing the relay's switch contacts and connecting auxiliary circuits via connector **C7** to the twelve volt buss bar through the ignition relay fuse. The harness **20** connects to the horn switch by splicing into the existing primary electrical system. Likewise, referring to connector **C16**, the hi-beams are connected to the wiring harness **20** by splicing into the vehicles electrical system.

Please replace the paragraph beginning at page 16, line 10, with the following amended paragraph:

In some circumstances it may be desired to connect the same lighting accessory to more than one lighting level switch. For example, it may be desired to have the lighting level 1 switch control turning all lighting accessories on and off, while the hi-beams is one of the accessories controlled by the lighting level 2 switch and the brake and backup flashers are controlled by the lighting level 3 switch. In this case the anodes of two diodes [[and]] on the fuse panel 14 are connected to the second contact of the lighting level 1 switch via connector C5, C14, and intermediate wiring. The cathode of one diode is connected to the second contact of the lighting level 2 switch [[2]], and the cathode of another diode is connected to the second contact of the lighting level 3 switch. In this manner the [[one]] diode prevents feedback from the hi-beams circuit when the lighting level switches are turned on simultaneously, and the other diode prevents feedback from the brake and backup light circuit when the lighting level switches are turned on simultaneously.

Please replace the paragraph beginning at page 17, line 14, with the following amended paragraph:

The console panel 18 may have a scales switch which is supplied with power via the Aux 2 fuse and delivers power at C14 to a scale charger which some police vehicles are equipped with for weighing trucks and other vehicle loads. The console panel 18 may have a scan switch (not shown) which is supplied with power via the Aux 2 fuse [[2]] and delivers power to a scanner located near the dash. The spare switch, left alley switch and right alley switch are shown being supplied with power at one contact

through Aux fuse [[6]] **4**. The other contact of the left and right alley switches are connected to the light bar via connector **C14** and intermediate wiring. The other contact of the spare switch is connected to spare wires in the lighting selection junction box. The console panel **18** may contain push button switches for gun locks which secure guns, such as rifles or shotguns, within the police vehicle **A**.

Please replace the paragraph beginning at page 18, line 4, with the following amended paragraph:

The console panel **18** switches are generally wired through the harness terminating at connector **C14**. Connector **C14** also delivers power to a number of other accessory devices which have their own built-in switches for applying and removing power. **C14** connects these devices to the various auxiliary circuits on fuse panel **14**. The accessory devices may include a siren control, a Mobile Dispatch Terminal, a portable radio, a flashlight, a map light, a directional or arrow stick control head (a control head which outputs control signals to the arrow stick through wiring harness connectors **C15** and **C29**) and a two way radio control head. Power may also be applied to a triple power outlet, which permits various accessories such as a cellphone or computer inverter to be connected through cigarette lighter plugs and the like. Several of these accessories may be supplied with power through a programmable timer delay. Programmable timer delays are conventional devices well known in the art for shutting off power to an accessory a predetermined time after the ignition switch is turned to the off position in order to prevent battery drain. An example of a programmable timer delay [[104]] suitable for use with the present invention is a model DR-33 programmable timer made by Minstar Technologies, Inc. of Grand Rapids,

Minnesota. The accessory devices may be connected to the ground buss through the harness wires terminating at connector C13.

Please replace the paragraph beginning at page 19, line 3, with the following amended paragraph:

**Fig. 4** illustrates a schematic diagram of a police vehicle equipped with a universal fleet electrical system **100**, similar to universal fleet electrical system **10** described above, and adapted for use with a microprocessor-based serial controller. The modification involves the use of a serial interface to interconnect the wiring harness **20** with the power distribution panel **112**. The use of serial controllers is known in the art for reducing the number of control switches on the console with a corresponding reduction in the volume of switch wiring. Serial controllers provide a consolidated switch panel which considerably facilitates the use of emergency accessory equipment. Serial controllers are available in a variety of configurations. ~~In one~~ One configuration~~[[,]]~~ is exemplified by the CENCOM type (CenCom is a trademark of Whelen Engineering Company, Inc. of Chester, Connecticut) made by Whelen Engineering Company, Inc., and by the disclosure of U.S. Patent ~~5,296,830~~ 5,296,840, assigned to Federal Signal Corporation. In this style of controller, a control head in the console area is linked to a control unit in the trunk by a serial communications cable, which may be a twisted pair of wires. The control unit is connected to relays which switch accessories, such as lighting, sirens, etc., in response to operation of button, slide or rotary switches on the control head. The control head may be programmable by software to configure the control head switches. A similar serial controller which may be used with the present invention is a

model F/S SS2000, made by Federal Signal Corporation. In a second configuration, as exemplified by the Smart Link System, also made by Whelen Engineering Company, Inc., a model MPC01 multi-purpose controller is installed on the console and is connected to several relays in the trunk by a serial communications cable. The relays may include a siren amplifier control, a current switch control for controlling lights, a directional light arrow control relay, etc.

Please replace the paragraph beginning at page 20, line 10, with the following amended paragraph:

Currently such serial controllers are added to an existing wiring harness or fleet electrical system as an after market add-on. The present invention enables users to utilize a single universal wiring harness that may be used for [[a]] conventional wired equipment, and that may be used with serial controlled systems via the use of the serial interface.

Please replace the paragraph beginning at page 20, line 23, with the following amended paragraph:

The wiring harness includes a serial interface which interconnects the main distribution panel [[12]] 112 with the wiring harness. The serial interface incorporates a serial communications cable which may be connected to either a control unit in the case of a programmable system of the CENCOM type, or to a serial siren control amplifier, serial current switch control, serial directional control, etc. in the case of a multi-function serial controller of the MPC01 type. **Fig. 5A** and **5B** illustrate a schematic drawing of the serial interface. **Figs. 6A** and **6B** again illustrate the console wire circuitry configured for serial control.

Please replace the paragraph beginning at page 21, line 8, with the following amended paragraph:

**Figs. 7A, 7B, and 7C** illustrate wiring circuitry for either one of the fuse ~~panel~~ panels **14 or 114**. Either one of the fuse panels **14 or 114** has a positive twelve volt buss bar connected directly to the positive terminal of the vehicle battery and a ground buss connected directly to the negative terminal of the battery, or to a vehicle ground on the engine. There is a buss bar connected to a high amperage fuse (e.g., 80 amperes or the like), for protection of high amperage accessories such as high power police radios, which are always hot so that the radios may be operated without turning the ignition switch on. The fuse panel **14 or 114** provides main power fuses for the accessory circuits, which are further divided into a plurality of auxiliary subcircuits which are individually protected by auxiliary fuses. Also mounted on the fuse panel **14 or 114** are five relays which are connected to switches on the console panel, and an ignition relay connected to the ignition switch. Each of the relays is separately protected by a relay fuse connected to the pole of the relay switch. A control fuse is connected between the positive buss bar and one contact of the console switches (described below) in order to protect the solenoid coils in the relays.

Please replace the paragraph beginning at page 22, line 18, with the following amended paragraph:

**Figs. 8A and 8B** [[is]] illustrate a schematic diagram of the lighting selector junction box panel. The lighting selector junction box receives power input from four relays via wires, which are ~~colored~~ color coded red, yellow, green and black, respectively, to distinguish the power input from the different relays. The power input from each relay is further split up into five parallel branches, each branch protected by a

fuse and connected to a terminal block. Some of the branches from the relay are left vacant to allow room for future expansion as more accessories are added to the emergency vehicle. Various lighting accessories are connected to the branch circuits by conventional spade terminal push connectors connected to the terminal blocks. This arrangement permits very quick customization of the particular light accessories controlled by each relay, thereby enabling power to a number of accessories to be controlled by a single switch, and permitting multiple light level switches. Wiring to the individual accessory loads is delivered the lighting selection junction box via the connectors. It will be noted that some of the wires delivered to the light selection junction box through the connectors are spare wires from the console panel and light bar connectors, which are therefore available for future expansion as accessories are added to the vehicle. The spare wires are color coded so that their origin and destination may be clearly determined.